AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on page 10, line 24, as follows:

Each position within a wavelength can be uniquely identified by the logic circuitry 190 according to known techniques and equations disclosed in the incorporated '458 and '519 patents. The logic circuitry 190 also controls the sequence of signal sampling by outputting a control signal over signal lines 190A-190D to a digital control unit 160. The digital control unit 160 controls the sequence of transmission, signal sampling and analog-to-digital conversion by outputting control signals on the power and signal bus lines ~~160A-160D~~ 160A-160I to the transmitter drivers 152-154, multiplexer 155, the analog signal processor 170 and the ramp analog-to-digital converter 180.

Please amend the paragraph beginning on page 11, line 14, as follows:

As noted above, FIGURE 2 shows an example of a three-scale track design, where there are three sets of three-phase receiver windings. The multiplexer 155 will choose one signal, or in the case of differential measurements, one signal pair, to be output to the analog signal processor 170. The chosen signal, or signal pair, is then processed by the analog signal processor 170. The analog signal processor 170 is controlled by the control signals on lines 160G and 160H. The output of the analog signal processor 170 is provided on signal lines 170A-170F, which are input to analog-to-digital converter 180. The analog-to-digital converter 180 is controlled by the control signals on line 160I. The logic circuitry 190 can access the output of the analog-to-digital converter 180. Furthermore, because the logic circuitry 190 controls the operation of the digital control unit 160, the logic circuitry 190 can choose to select the scale tracks or phases in any sequential order.

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